Government of Madras.

PUBLIC WORKS DEPARTMENT.

IRRIGATION.
ACCOUNT.

Recd.	1915.	*Enclosures*
Regd.		*Spare copies*

G.O. No. 285 I., 7th June 1915.

N. P.

Improvements to the Kuthanur dam across the Nandalar, Cauvery Delta System

Sanctioning, with remarks, an estimate amounting to Rs. 5,289 for —, Cauvery division.

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GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

READ—the following papers :—

I

G.O. No. 209 I., dated 6th May 1907.

II

Letter—from M.R.Ry. Rai Bahadur A. V. RAMALINGA AYYAR Avargal, B.A., B.C.E., Superintending Engineer, VII Circle.
To—the Chief Engineer for Irrigation.
Dated—Madras, the 26th March 1915.
No.—267 E.I.

I have the honour to forward herewith for favour of sanction under 49. Open Capital Accounts of the Cauvery Delta System, an estimate for Rs. 4,380 for converting the Kuthanur dam across the Nandalar into a regulator. The conversion of this dam into a regulator was included in G.O. No. 209 I., dated 6th May 1907.

2. The work is a solid dam 46′ 2″ long and 2′ high with 3′ 6″ high damstones over the crest with 2 scouring vents 4′ wide one at each end. In 1908–09, this dam was improved by the fitting up of screw-gearing shutters to the scouring sluices. It was then considered that this improvement would be sufficient and that its conversion into a regulator would not be necessary. Two irrigation channels, Idyar and Seddan channel, take off above this dam on the right side and for sending the required supply to these channels, horizontal planks are put in front of the damstones. During floods, it is found extremely difficult to remove the planks which are generally not removed at all with the result that the dam acts as a solid structure up to the top of the damstones, and the difference in water level between the front and the rear of the dam is as much as 2·76 feet. The lands on both sides above the dam especially those on the left side are reported to be subject to submersion resulting in loss of crops. The conversion of the dam into a regulator is therefore now considered necessary and the Collector has countersigned the estimate in token of his approval.

3. This is the tail dam across the Nandalar in the British limits and the irrigation sluices benefited by this dam are so close to the dam that the lowering of its crest will not interfere with the irrigation supply. No special rules of regulation will be required at this place after the conversion of the dam into a regulator, as the lands in the lower reaches are entitled only to the surplus water over the dam.

4. The approximate cost of the dam proposed to be demolished for converting it into a regulator is Rs. 150 and this amount may be ordered to be written back from Capital to Revenue accounts.

5. The work is proposed to be completed by the 31st March 1917.

6. Early sanction of the estimate is requested.

Enclosure.

Report to accompany the estimate for improvements to the Kuthanur dam across the Nandalar.

	RS.
Amount of estimate	4,380

The Kuthanur dam is a solid dam across the Nandalar with two scouring vents one at each end. The scouring vents were provided with screw geared shutters under sanctioned estimate for Rs. 500 in 1911–12. The solid dam is 46′ 2″ long and 2′ high above the sill of the scouring vents and has nine damstones of 3½ feet height for holding up water to the F.S.L., required for sending supply to the Idyar and Siddhan channels. Horizontal planks are put in front of the damstones to raise the water level and during a suddenly rising flood, the shutter planks are difficult to remove and are generally never removed. This is why the improvements are proposed, even though they were considered unnecessary in G.O. No. 317 I., dated 23rd August 1912. The conditions now are worse at the dam owing to the large volume of water coming down through the new regulators higher up. There is consequently a great heading up of water and the lands on both sides above the dam especially those on the left side are subject to submersion resulting in loss of crops. It is to prevent this evil that it is now proposed to dismantle the solid dam and provide five vents of 6′ 9″ width each, with piers of 3′ 1″ thickness and provide them with screw geared shutters. The platform level will be kept 2·1′ higher than the required level so that in cases of unprecedented floods, the shutters may be raised clear. The rates provided are as per current schedule of rates and early sanction of the estimate is requested to enable the work being completed before the next year's floods.

Plans C. Nos. 235, 235-A, 235-B, 235-C and 235-D of 1914.

The conversion of this dam into a regulator is included in G.O. No. 209 I., dated 6th May 1907, and the work is essential for the drainage of the lands above.

M. Nilakanta Ayyar,
Executive Engineer.

30th January 1914.

III

Note by the Chief Engineer for Irrigation, No. 2635/B. 15–1, dated May 1915.

The Kuthanur dam across the Nandalar, Cauvery Delta System, is included in the list II printed in G.O. No. 209 I., dated 6th May 1907, of the solid dams proposed to be converted into regulators. When the estimates for converting the other solid dams on the same river into regulators were submitted in 1912, the Superintending Engineer in his letter No. 196 E.I., dated 28th May 1912, printed in G.O. No. 317 I., of 23rd August 1912, stated that the conversion of the Kuthanur dam into a regulator was not considered necessary as it was improved in 1908–09 by fitting up screw-gearing shutters to the scouring vents at its ends.

2. With his letter No. 267 E.I., dated 26th March 1915, the Superintending Engineer, VII Circle, now submits an estimate amounting to Rs. 4,380 for converting the Kuthanur dam into a regulator and states that from subsequent experience, it is found very difficult to remove, during sudden floods, the horizontal planks put in front of the damstones for holding up water up to F.S.L. with the result that the lands on both sides of the river above the dam are subject to submersion and loss of crops and that therefore the conversion of the dam into a regulator is now considered necessary.

3. The Kuthanur dam is 46′ 2″ long with its crest at 52·00 with damstones 3½ feet high over the crest and with two scouring vents 4 feet wide, one at each end, fitted with screw-gearing shutters. It is now proposed to demolish the solid portion of the dam between the scouring vents and to convert it into a regulator consisting of five vents of 6′ 9″ wide each with screw-gearing shutters 5½ feet high with their tops at + 55·50, the level of the top of present damstones.

4. The reinforced concrete slab provided at floor level in the estimate submitted has been disallowed being considered unnecessary and cement concrete 6 inches thick provided for a width of 8 feet from 2 feet in front of the shutters. The lump sum of Rs. 116 allowed under unforeseen works being insufficient it has now been increased to Rs. 245. The above alterations do not affect the total of the estimate.

5. The estimate has been countersigned by the Collector as a token of his approval of the proposal and the estimate as altered in this office is recommended for sanction with the following remarks.

6. From the longitudinal and cross sections submitted, the bed of the river in rear of the existing dam appears to have been deeply scoured out and no provision is made in the present estimate to rectify this defect but it is understood that a separate estimate has been sanctioned by the Superintending Engineer for putting in additional aprons and that the work is in progress. This fact should have been mentioned in the report and the measures proposed clearly marked on the cross section of the regulator.

W. M. ELLIS, Col., R.E.,
Chief Engineer for Irrigation.

To the Secretary to Government, Public Works Department (Irrigation).

Order—No. 285 I., dated 7th June 1915.

The following estimate is sanctioned :—

Improvements to the Kuthanur dam across the Nandalar, Cauvery division, Cauvery Delta System.

I

Divided Head.
42. Major Works (Working Expenses).
Revenue Account.
1. Extensions and Improvements.
4. Drainage and Protective Works.
C. Works.

	RS.
Estimate	150

II

Imperial.
49. Capital Expenditure not charged to revenue.
Open Capital Account.
I. Works.
4. Drainage and Protective works.
C. Works.
Unremunerative work.

	RS.
Estimate—	
I Works	4,230
II Establishment	909
	5,139

2. This sanction is registered as No. 29 I. of 1915-16 and will expire on the 31st March 1916.

3. The attention of the Superintending Engineer is drawn to the remarks of the Chief Engineer for Irrigation in his foregoing note.

(True Extract.)

W. M. ELLIS, Col., R.E.,
Secretary to Govt., P.W.D.
(Irrigation Branch).

To the Superintending Engineer, VII Circle, with five plans and one estimate.
,, Accountant-General, Madras.

PUBLIC WORKS DEPARTMENT
(IRRIGATION BRANCH).

NOTES CONNECTED WITH G.O. No. 285 I., DATED 7TH JUNE 1915.

[SUBJECT.—*Conversion of the Kuthanur dam across the Nandalar into a regulator.*]

From the Superintending Engineer, VII Circle, dated 26*th March* 1915, *No.* 267-*E.I.*

With his letter read above, the Superintending Engineer submits for sanction an estimate amounting to Rs. 4,380 for converting the Kuthanur dam across the Nandalar, one of the dams the conversion of which into a regulator was sanctioned in G.O. No. 209 I., dated 6th May 1907, into a regulator. The necessity for the work is explained in the report accompanying the estimate.

Printed with G.O. 317 I., 23rd August 1912.

2. The work is unremunerative and is classed under the open capital account of the Cauvery Delta system. The estimated cost of the dam proposed to be demolished—Rs. 150—may be debited to the revenue account of the system.

Paragraph 1921, Public Works Department Code.

3. The proposals have been approved by the Collector and it is for orders whether the estimate be checked for sanction.

The Superintending Engineer asks for early sanction.

T.S.N.—13-4-15.

M.S.V.—14-4-15.

F. E. MORGAN—16-4-15.

The estimate may be checked for early sanction.

It is noted that the Superintending Engineer allows Rs. 400 per shutter 6′ 9″ span, $5\frac{1}{2}$ feet high, with ball bearing for plates. He allowed the same sum for the Kannappa Mulai calingulah shutter 9′ 10″ span, $4\frac{1}{4}$ feet high. If the former is correct the latter appears too low. Workshops could probably give correct quotation.

The ferro-concrete floor slab is considered unnecessary but cement concrete is required from 2 feet in front of shutter for a width of about 8 feet.

W. M. ELLIS—16-4-15.

The estimate and hydraulic particulars have been checked.

The conversion of this dam into a regulator is included in list II printed in G.O. No. 209 I., dated 6th May 1907. When estimates for converting the Muthur, Chintamani and Palanjanallur dams across the Nandalar into regulators were submitted in 1912 it was reported that the conversion of this Kuthanur dam into a regulator was unnecessary as it was improved by fitting screw-gearing shutters to its scouring vents, but it is now stated that it should be converted into a regulator.

Vide page 3 of G.O. 317 I., 23rd August 1912.

Kuthanur dam is a solid one 46′ 2″ long and 2 feet high with damstones on crest $3\frac{1}{2}$ feet high. It has two scouring vents one at each end 4 feet wide fitted with screw-gearing shutters. It is now proposed to demolish the dam between the scouring vents to floor level + 50·00 and convert it into a regulator consisting of five vents of 6′ 9″ wide with screw-gearing shutters $5\frac{1}{2}$ feet high with their tops at + 55·50, *i.e.*, top of present damstones, retaining the existing scouring vents as they are. The new piers are proposed to be raised on old foundations adding new foundations only for the cutwaters which project in front.

The reinforced concrete slab allowed at floor level has now been omitted and cement concrete 6″ thick provided for a width of 8 feet from 2 feet in front of the shutters as per remarks of the Chief Engineer for Irrigation. This alteration has effected a saving of Rs. 129 but as the lump sum of Rs. 116 allowed for unforeseen appears insufficient it has now been increased from Rs. 116 to Rs. 245 without affecting the total of the estimate.

The rates are supported by data and they agree with the current schedule of rates.

From the longitudinal and cross sections of the river furnished it will be seen that the bed of the river in rear of the existing dam is much scoured out, say to a depth of about 9 feet below floor level or first apron; nothing is mentioned in the report regarding the measures taken for filling in the scour, but from the pencil remarks in cross section plan C. No. 235 A./1914, it is understood that a separate estimate for Rs. 2,240 has already been sanctioned by the Superintending Engineer for putting in additional aprons and the work is in progress. This fact ought to have been mentioned in the report and also marked on the cross section of the regulator plan C. No. 235/1914. A draft note by the Chief Engineer for Irrigation is put up for approval.

Plans C. 235 D. and 235 A of 1914.

M.V.—31-5-15.

The lands irrigated by the Nandalar below Kuthanur dam lie in French territory. By converting the Kuthanur dam into a regulator a large volume of water may be suddenly passed down during floods causing a change in the condition of floods lower down.

Submitted for consideration whether it is not necessary to inform the French authorities that we are converting the last dam across the Nandalar in British limits into a regulator.

R.S.—31-5-15.

I do not think that there will be any sudden flooding due to the regulator but the run-off will be a little faster, but, however, should not affect the country below to any extent.

F. E. MORGAN—31-5-15.

I agree.

W. M. ELLIS—31-5-15.

A draft order sanctioning the estimate is also put up, which may, if approved, issue.

T.S.N.—31-5-15.

M.S.V.—31-5-15.

Issue.

W.M.E.—4-6-15.

[G.O. No. 285 I., dated 7th June 1915.]

From the S.E VII No: 267 dated 26.3.15

Print 17/21-3.CF

Note by the Chief Engineer
for irrigation.

No: 2635/B 15-1 dated May 15

The Kuthanur dam across the Nandalar, Cauvery Delta System, is included in the list II printed in G.O. No. 209 I dated 6-5-07, of the solid dams proposed to be converted into regulators. When the estimates for converting the other solid dams on the same river into regulators were submitted in 1912, the S.E. in his letter No. 196 E.I. dated 28th May 1912, printed in G.O.No 317 I of 23-8-12, stated that the conversion of the Kuthanur dam into a regulator was not considered necessary as it was improved in 1908-09 by fitting up screw gearing shutters to the scouring vents at its ends.

Flag J

Flag XV

2. With his letter No. 267 E.I. dated 26th march 1915 the S.E. 7th circle

p.1 CF

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6P

circle now submits an estimate amounting to Rs. 4380 for converting the Kuthanur dam into a regulator and states that from subsequent experience, it is found very difficult to remove, during sudden floods, the horizontal planks put in front of the damstones for holding up water up to F.S.L. with the result that the lands on both sides of the river above the dam are subject to submersion and loss of crops ~~thereby~~, and that therefore the conversion of the dam into a regulator is now considered necessary.

3. The Kuthanur dam is 46'-2" long with its crest at 52.00 with damstones 3½ft high over the crest and with two scouring vents 4 ft wide, one at each end, fitted with screw gearing shutters It is now proposed to demolish the solid portion of the dam between the scouring vents and to convert it into a regulator consisting of 5 vents of 6'-9" wide each with screw gearing shutters 5½ ft high with their tops at +55.50 ~~or~~ the level of the top of present damstones.

4. The reinforced concrete slab ~~allowed~~ provided at floor level in the estimate submitted has been ~~omitted~~ disallowed being considered unnecessary and cement concrete 6" thick provided for a width of 8 ft from 2 ft in front of the shutters. The lump sum of Rs. 116 allowed under unforseen works being

insufficient

6/

insufficient it has now been increased to Rs. 245. The above alterations do not affect the total of the estimate.

5. The estimate has been countersigned by the Collector as a token of his approval of the proposal and the estimate as altered in this office is recommended for sanction with the following remarks:-

6. From the longitudanal and cross sections submitted, the bed of the river in rear of the existing dam appears to have been deeply scoured out and no provision is made in the present estimate to rectify the defects but it is understood that a seperate estimate has been sanctioned by the S.E. for putting in additional aprons and the work is in progress. This fact should have been mentioned in the report and the measures proposed clearly marked on the cross section of the regulator.

31/5/15

7/6/15

4/6/15

To
The Secy to Govt: P.W.D.(Irrgn)

7/6

31/5/15

Scott. II—10 (a)—7,000—4-13.

P.W. DEPARTMENT.

Irrigation

Dams

Irrigation works

Projects.

Improvements to the Kuthanur Dam across the Nandalar. Cauvery Delta System. Sanctioning with remarks an Estimate amounting to Rs ~~5172~~ 5,289 for ——— Cauvery Dn

READ AGAIN G.O. No. 2093, dated 6 May 1907

" " " ......, " ...... 191 .

Quote

READ ALSO:—

C. No. 2635/15, From the Chf Engr for Irrn, No. 2635 B/15-1, dated May 1915.

Print

" " ......, " " ......, " ......, " ...... 191 .

" " ......, " " ......, " ......, " ...... 191 .

ORDER.

No. 285 I, dated 7-6 1915

Press.

Print notes

The following Estimate is sanctioned:—

Improvements to the Kuthānur Dam across the Nandalar. Cauvery Dn Cauvery Delta System.

I

Divided Head

42-Major works (Working Expenses) Revenue Account

1. Extensions and Improvements

4. Drainage and Protective works

C. works.

	Rs
Estimate	150

12

9P

II

Imperial

49. Capital expenditure not charged to revenue.

Open Capital Account

I Works

4. Drainage and Protective works.

C. Works

Un-remunerative works.

Estimate	Rs
I Works	~~4,380~~ 4,230
II Establishment.	~~942~~ 909
	~~5,322~~ 5,139

2. This sanction is registered as No. 29 I of 1915-16 and will expire on the 31.3.1916

3. The attention of the S.E. is drawn to the remarks of the Chief Engr. for irrigation in his foregoing note.

Spare copies despd 1/7

pp. 4-6 cf

7/6/15

4/6/15

To

The S.E. VII Circle 5 Plans & Estimate (one) Ms

+ The A G Madras (A.O. for E.T.)

5d copy despd 1/7

msu 31.5.15

DESPATCHED
Date 8/6
Enclos. 5 Plans & Estes to S.E. VII

Typed } Read } RL 7/6

Exd. 7/6

Scott. II—10 (a)—7,000—4-18.

DEPARTMENT

READ AGAIN G.O. No. ...., dated .... 191 .

" " " " ...., " .... 191 .

READ ALSO:—

C. No. ......, From the ...., No. ...., dated 19

" " ......, " " ...., " ...., " 191

" " ......, " " ...., " ...., " 191

ORDER.

No. ...., dated 191

II